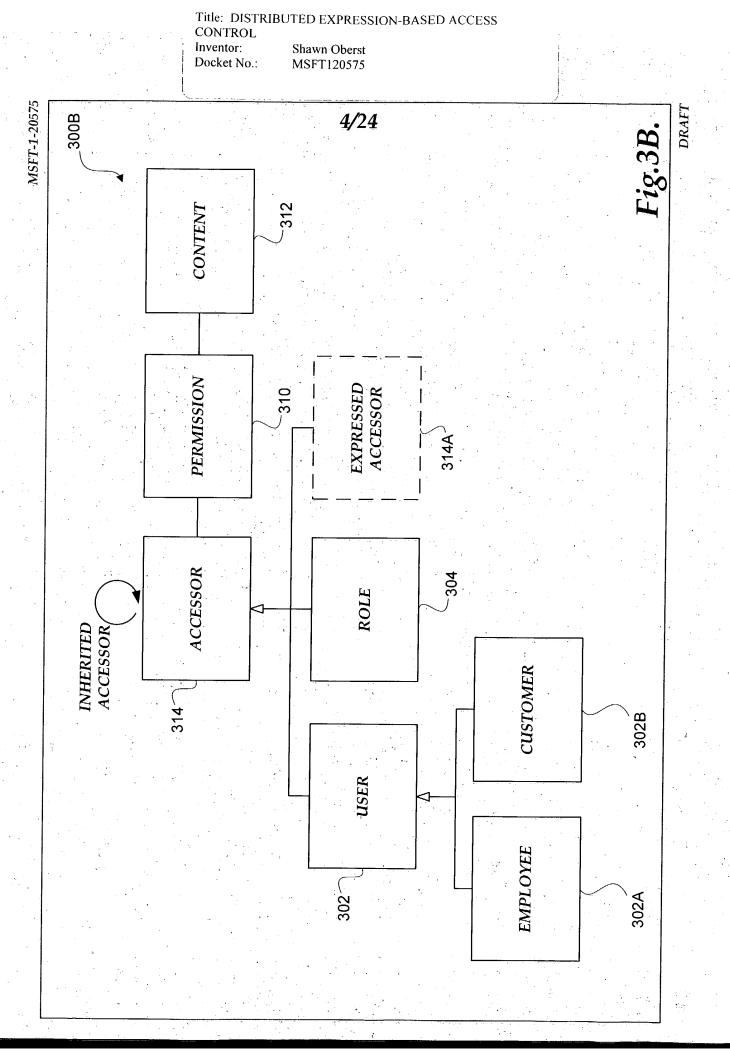
Shawn Oberst MSFT120575 Inventor: Docket No.: DRAFT MSFT-1-20575 1/24 Fig.1 120 122 124 EQUIPMENT PERMISSION EQUIPMENT PERMISSION PERMISSION **ENTRANCE** EYE LASER HOSPITAL 118 CT SCAN 116 ROLE OF DR. MURPHY, THE ROLE OF A CT SCAN MACHINE ROLE OF EMPLOYEE SURGEON 108 106 100

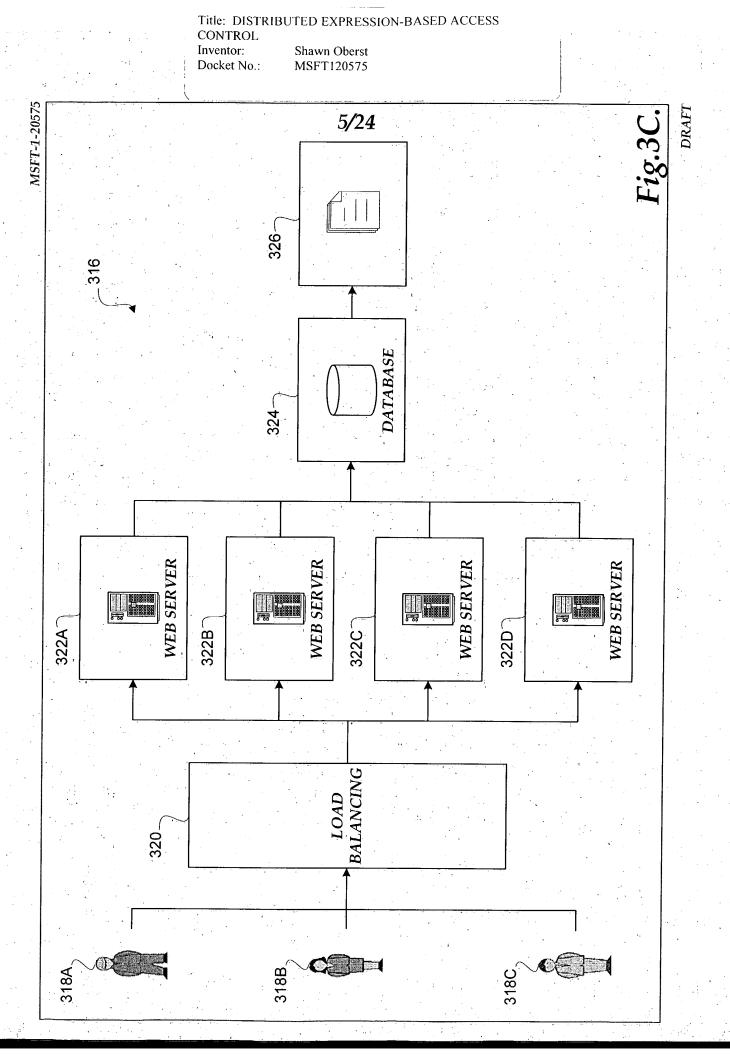
Title: DISTRIBUTED EXPRESSION-BASED ACCESS

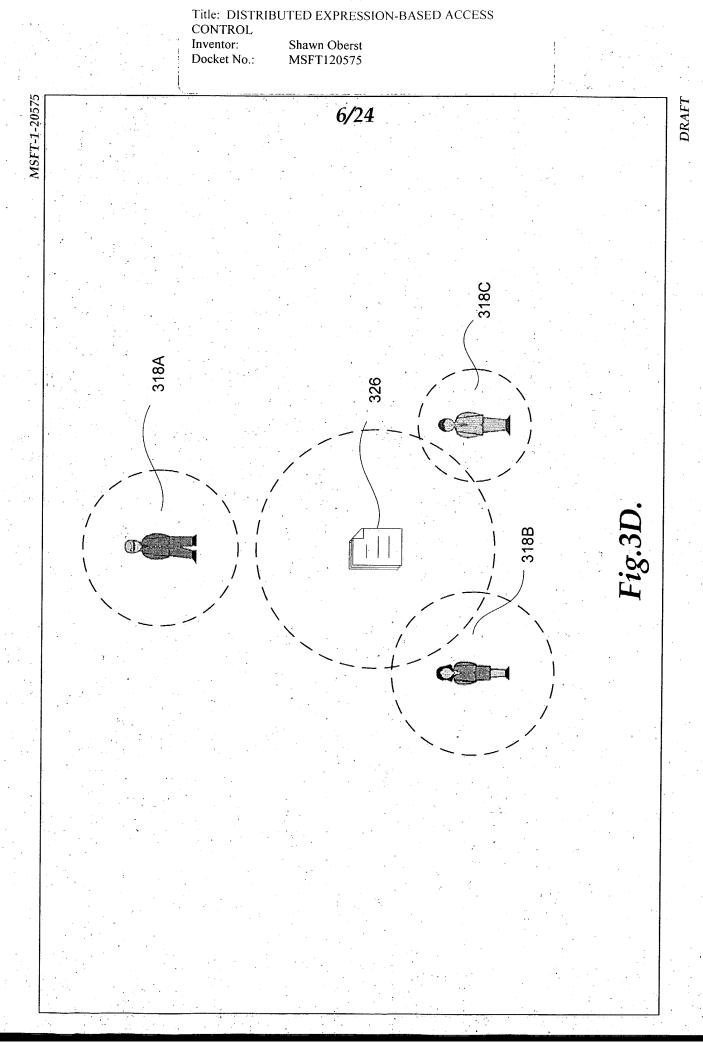
Inventor: Shawn Oberst Docket No.: MSFT120575 MSFT-1-20575 2/24 DRAFI COMPUTER SPEAKERS MONITOR REMOTE **PRINTER** MODEM **WIDE AREA** NETWORK 273 281 280 297 -262 296272 291 INTERFACE NETWORK APPLICATION PROGRAMS 285 REMOTE LOCAL AREA 295 NETWORK INPUT/OUTPUT PERIPHERAL INTERFACE 270 USER INPUT INTERFACE 260 NTERFACE 290, 261 -VIDEO SYSTEM BUS $256^{)}$ 250 252 REMOVABLE INTERFACE NON-VOL. MEMORY PROGRAM 221 $\frac{DATA}{247}$ 251 **PROCESSING** MODULES 246 PROGRAM NON-REMOVABLE UNIT OTHER NON-VOLUME INTERFACE MEMORY 210 APPLICATION **PROGRAMS** 240 245 APPLICATION OPERATING PROGRAMS 235 PROGRAM PROGRAM MEMORY **MODULES** (ROM) 231 (RAM) 232 BIOS 233 SYSTEMSYSTEM OTHER $\frac{DATA}{23Z}$ OPERATING 236 234 SYSTEM 244

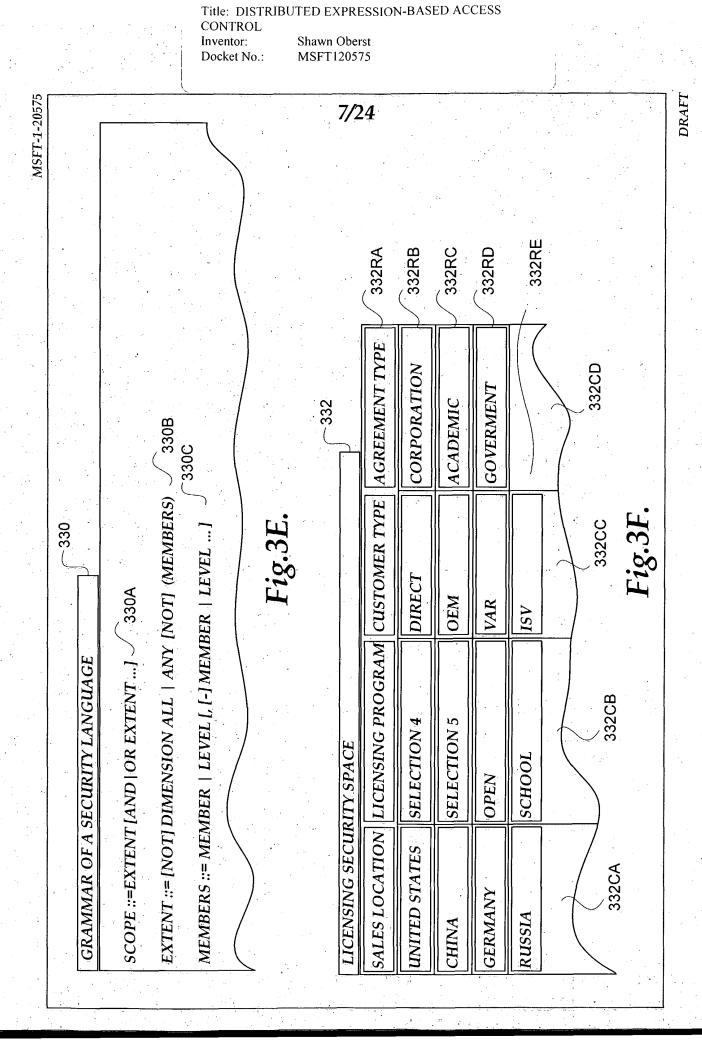
Title: DISTRIBUTED EXPRESSION-BASED ACCESS

Title: DISTRIBUTED EXPRESSION-BASED ACCESS CONTROL Inventor:
Docket No.: Shawn Oberst MSFT120575 DRAFT MSFT-1-20575 3/24 300A CONTENT **PERMISSION** EXPRESSED 308 ROLE ROLE INHERITED ROLE **EXPLICIT ROLE** CUSTOMER 306 304 302B USER 302 **EMPLOYEE** 302A









Title: DISTRIBUTED EXPRESSION-BASED ACCESS

CONTROL

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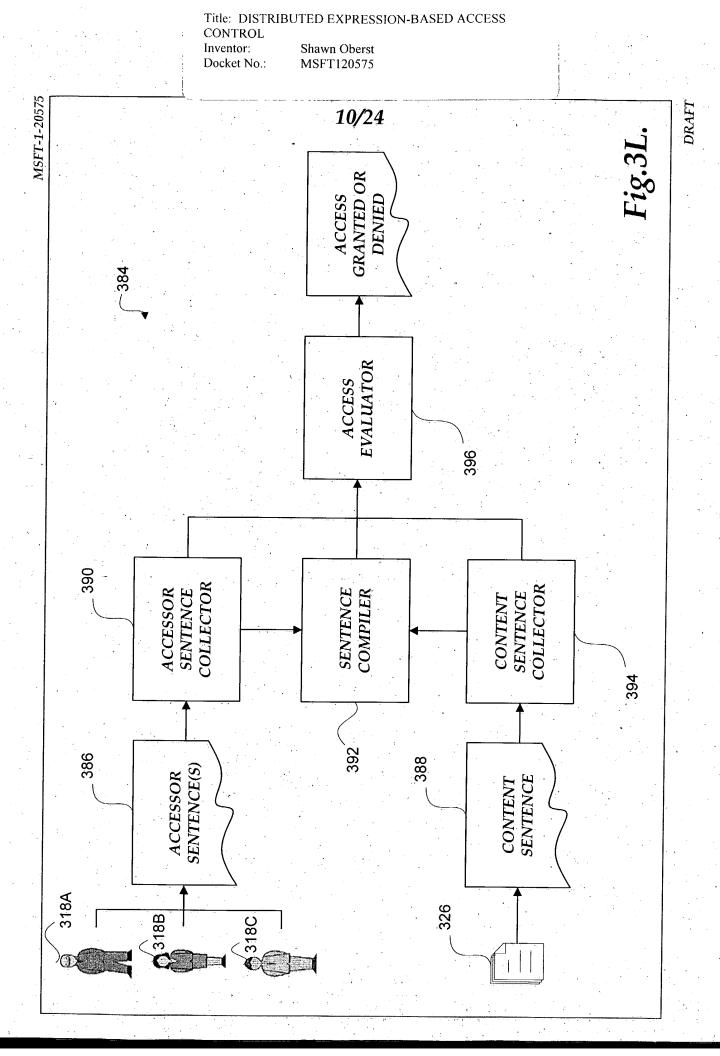
MSFT120575 Docket No.: MSFT-1-20575 376A 9/24 376B SALESLOCATION ANY (UNITED STATES, CHINA) AND CUSTOMERTYPE ANY (DIRECT, OEM) \sim SALESLOCATION ALL (UNITED STATES, CHINA, RUSSIA) AND CUSTOMERTYPE ANY (DIRECT) 380A SALESLOCATION ALL (UNITED STATES, RUSSIA) AND CUSTOMERTYPE ANY (VAR) 378A SALESLOCATION ANY (GERMANY, RUSSIA) AND CUSTOMERTYPE ANY (DIRECT, VAR) SALESLOCATION ALL (GERMANY, RUSSIA) AND CUSTOMERTYPE ANY (VAR) 380 382 376 378 ACCESS SCOPE OF AN ACCESSOR ALLOWING ACCESS ACCESS SCOPE OF AN ACCESSOR ALLOWING ACCESS ACCESS SCOPE OF AN ACCESSOR DENYING ACCESS ACCESS SCOPE OF A PIECE OF CONTENT Fig.3K. Fig.3J

Inventor:

Shawn Oberst

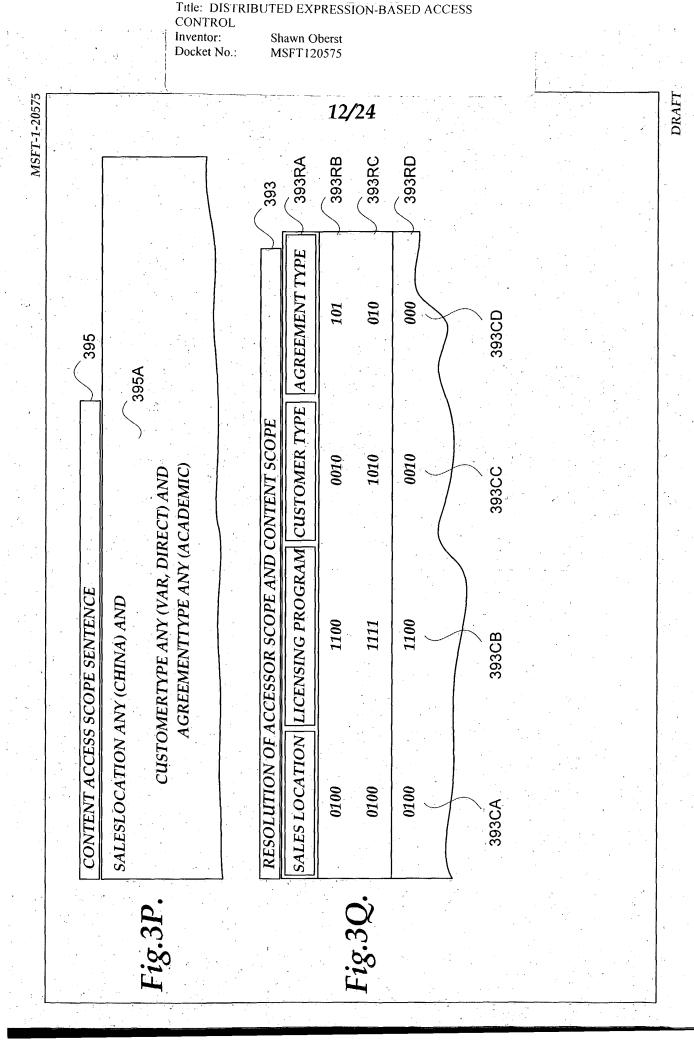
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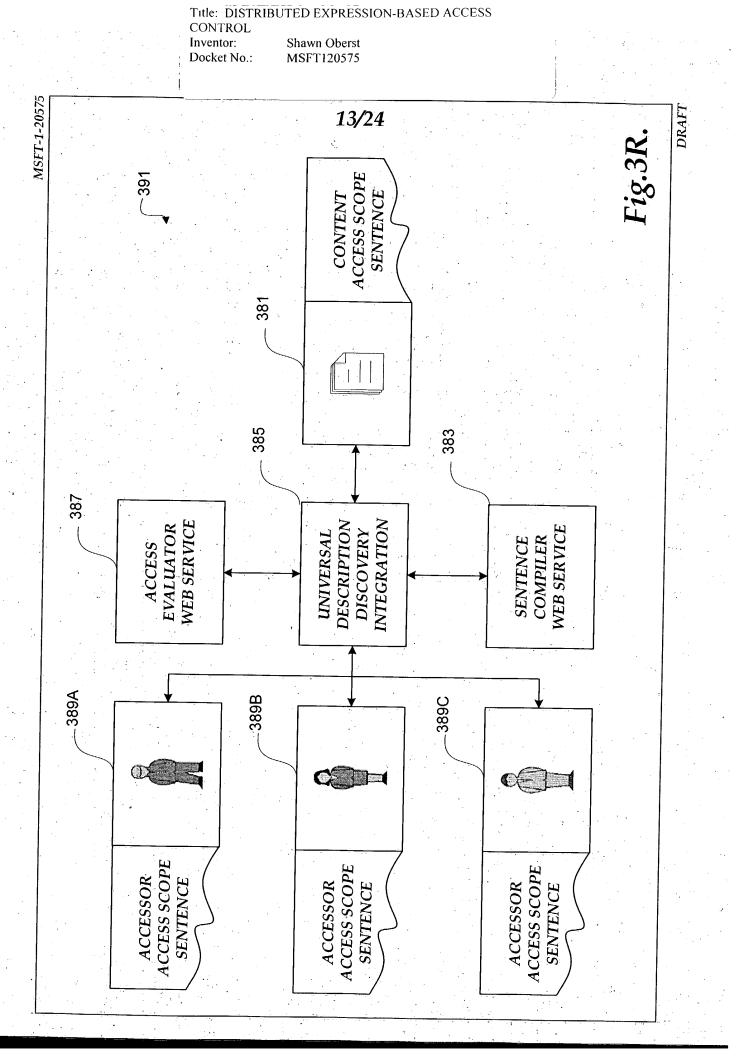
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Inventor: Shawn Oberst MSFT120575 Docket No.: MSFT-1-20575 11/24 397RC 397RD 397RB 397RA 397 398A AGREEMENT TYPE 100 100 101 397CD AGREEMENTTYPE ANY (CORPORATION, GOVERNMENT) 398 399 399A LICENSINGPROGRAM ANY (SELECTION4, SELECTION5) AND SALES LOCATION | LICENSING PROGRAM | CUSTOMER TYPE RESOLUTION OF ACCESSOR SCOPE AND CONTENT SCOPE AGREEMENTTYPE ANY (CORPORATION) 0010 0010 1010 397CC CUSTOMERTYPE ANY (VAR, DIRECT) AND CUSTOMERTYPE ANY (VAR) AND ACCESSOR ACCESS SCOPE SENTENCE CONTENT ACCESS SCOPE SENTENCE SALESLOCATION ANY (CHINA) AND SALESLOCATION ANY (CHINA) AND 1100 1100 1111 397CB 0100 0100 0100 397CA Fig.3N. Fig. 30.

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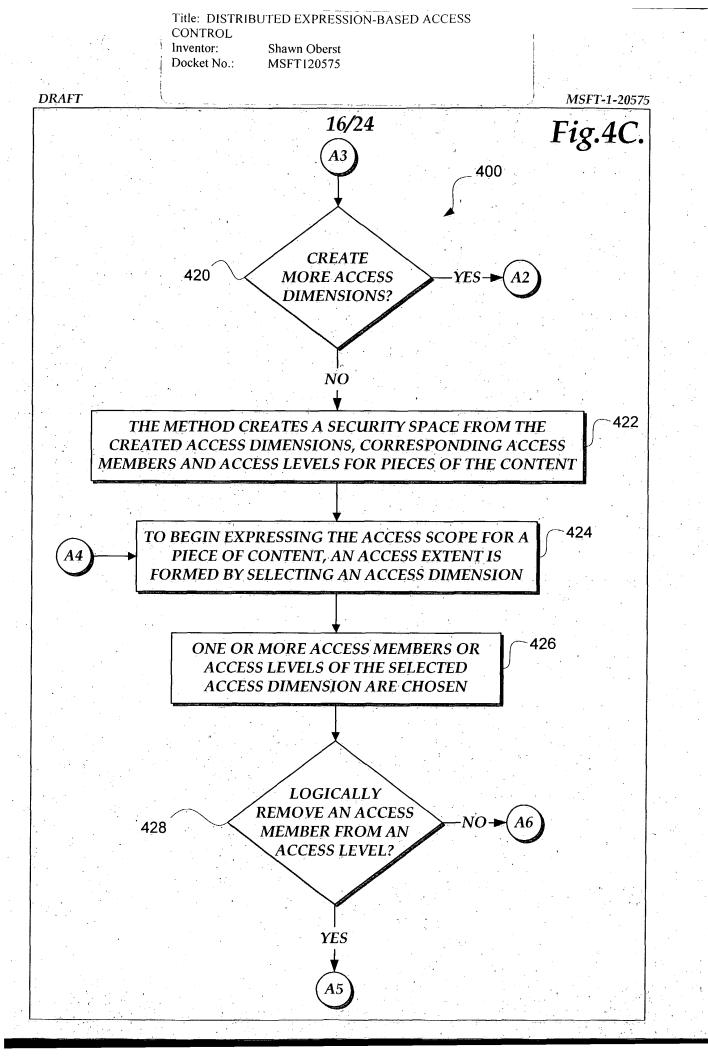


CONTROL Inventor: Shawn Oberst Docket No.: MSFT120575 DRAFT MSFT-1-20575 14/24 400 START A METHOD FOR EVALUATING THE SCOPE OF CONTENT ACCESS REQUESTS BY USERS THE METHOD CREATES ACCESS SCOPES FOR 404 **CONTENTS (SEE FIGS. 4B-4E)** THE METHOD CREATES USERS OR ROLES AND CAUSES USERS OR ROLES TO INHERIT FROM 406 ACCESSORS SO AS TO GAIN THE CAPABILITY OF ACCESSING CONTENTS (SEE FIGS. 4F-4G) THE METHOD GRANTS OR DENIES AN ACCESS 408 REQUEST BY EVALUATING ACCESS SCOPE SENTENCES (SEE FIGS. 4H-4K) **FINISH** Fig.4A.

Title: DISTRIBUTED EXPRESSION-BASED ACCESS

Inventor: Shawn Oberst Docket No.: MSFT120575 DRAFT MSFT-1-20575 15/24 Fig.4B. 400 A CONTENT DEVELOPER CREATES PIECES OF CONTENT, 410 SUCH AS SOFTWARE LICENSES AN ACCESS DIMENSION (SUCH AS SALES LOCATION) IS CREATED FOR THESE 412 PIECES OF CONTENT ACCESS MEMBERS (SUCH AS UNITED STATES, CHINA, GERMANY, AND RUSSIA) BELONGING TO THE 414 ACCESS DIMENSION ARE FLESHED OUT 416 **ORGANIZE** THE ACCESS MEMBERS **UNDER LEVELS?** YES 418 ONE OR MORE LEVELS ARE CREATED UNDER NO THE ACCESS DIMENSION AND ACCESS MEMBERS ARE PLACED UNDER THE LEVELS

Title: DISTRIBUTED EXPRESSION-BASED ACCESS



Title: DISTRIBUTED EXPRESSION-BASED ACCESS CONTROL Inventor: Shawn Oberst Docket No.: MSFT120575 MSFT-1-20575 17/24 Fig.4D. 400 430 THE METHOD TEXTUALLY INSERTS A MINUS SIGN "-" IN FRONT OF AN **ACCESS MEMBER** THE METHOD FORMS A LIST OF **ACCESS MEMBERS** 434 IS THE LIST OF **ACCESS MEMBERS** THE NOT SET? YES 436 THE METHOD TEXTUALLY INSERTS NO THE WORD "NOT" IN FRONT OF THE LIST OF ACCESS MEMBERS THE METHOD TEXTUALLY INSERTS A SET SPECIFICATION ("ALL" OR "ANY") IN FRONT OF THE LIST OF ACCESS MEMBERS (OR IN FRONT OF THE WORD "NOT" IF PRESENT) THE METHOD TEXTUALLY INSERTS THE DESIGNATION OF THE SELECTED ACCESS DIMENSION (E.G., "SALESLOCATION") IN FRONT OF THE SET SPECIFICATION

DRAFT

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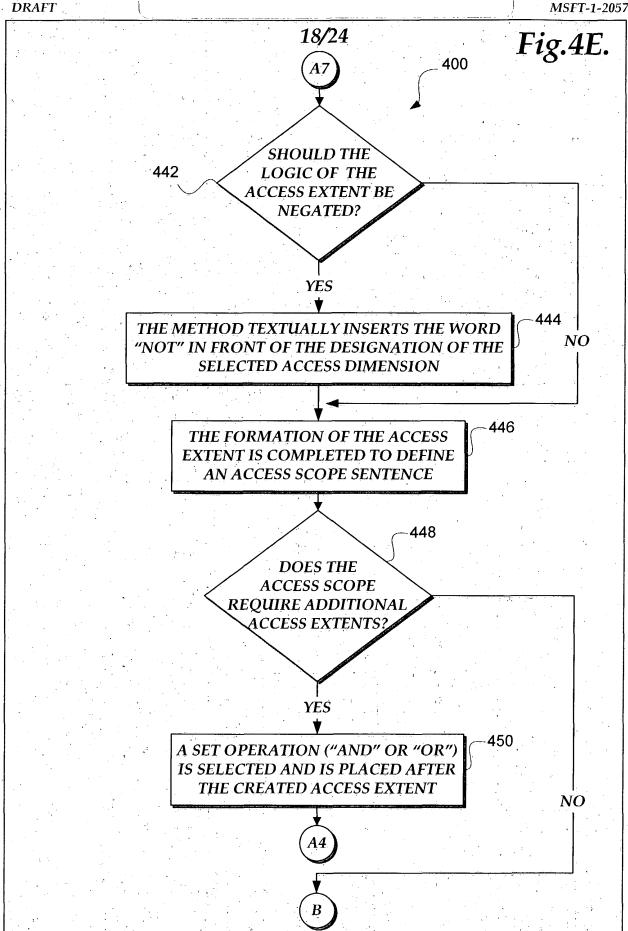
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Title: DISTRIBUTED EXPRESSION-BASED ACCESS CONTROL Inventor: Shawn Oberst

MSFT120575

Docket No.:

MSFT-1-20575



CONTROL Inventor: Shawn Oberst Docket No.: MSFT120575 DRAFT MSFT-1-20575 19/24 Fig.4F. 400 USERS, ROLES, OR 452 **BOTH ARE CREATED** AN ACCESSOR IS CREATED AND THE **USERS AND ROLES ARE CAUSED TO** INHERIT FROM THE ACCESSOR THE ACCESS SCOPE OF THE ACCESSOR IS EXPRESSED 456 USING PROCESSING STEPS BETWEEN CONTINUATION TERMINALS A4, B TO CREATE AN ACCESS SCOPE SENTENCE 458 **CREATE MORE** ACCESS SCOPE SENTENCES? YES NO THE METHOD CONSTRUCTS EXPLICIT 460 ACCESS SCOPE SENTENCES IMPLIED BY TWO OR MORE ACCESS SCOPE SENTENCES

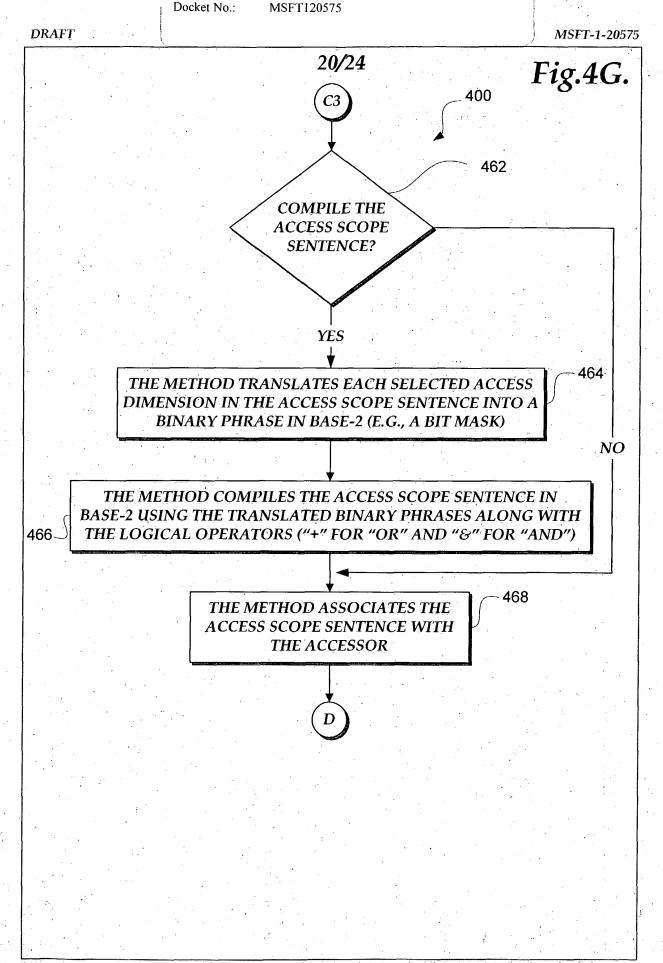
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CONTROL Inventor:

Inventor:

Shawn Oberst MSFT120575



Inventor: Shawn Oberst Docket No.: MSFT120575 DRAFT MSFT-1-20575 21/24 Fig.4H. 400 A USER LOGS ON TO A COMPUTER AND FINDS A PIECE OF CONTENT USING A DIRECTORY OR UNIVERSAL DESCRIPTION, DISCOVERY, AND INTEGRATION WEB SERVICE (UDDI) 472 IS THE PIECE OF CONTENT ACCESSIBLE BY A **WEB SERVICE?** NO A USER REQUESTS ACCESS TO A PIECE OF CONTENT (E.G., BY DOUBLE-CLICKING A USER INTERFACE REPRESENTATION OF THE PIECE OF CONTENT, SUCH AS A FILE ICON) THE METHOD COLLECTS ONE OR MORE ACCESSOR'S ACCESS SCOPE SENTENCES ASSOCIATED WITH THE USER FOR EVALUATION THE METHOD COMPILES (IF NECESSARY) THE ACCESSOR'S ACCESS SCOPE SENTENCES (SEE PROCESSING STEPS 464-466)

Title: DISTRIBUTED EXPRESSION-BASED ACCESS

Docket No.: MSFT120575 DRAFT MSFT-1-20575 22/24 Fig.4I. 400 THE METHOD COLLECTS ONE OR MORE ACCESS 480 SCOPE SENTENCES ASSOCIATED WITH THE PIECE OF CONTENT FOR EVALUATION THE METHOD COMPILES (IF NECESSARY) THE 482 ACCESS SCOPE SENTENCES FOR THE PIECE OF **CONTENT (SEE PROCESSING STEPS 464-466)** 484 IS THERE AN ACCESS DIMENSION NOT USED BY BOTH THE ACCESSOR AND THE PIECE OF CONTENT? 486 YES THE METHOD SUPPLANTS THE MISSING BINARY PHRASE WITH A BINARY PHRASE FILLED WITH 1'S (THE NUMBER OF 1'S CORRESPONDS TO THE **NUMBER OF MEMBERS IN THE ACCESS DIMENSION)** EACH BINARY PHRASE OF THE ACCESSOR IS LOGICALLY "ANDED" WITH EACH CORRESPONDING BINARY PHRASE OF THE **E4** PIECE OF CONTENT, FORMING AN EVALUATED BINARY PHRASE 488

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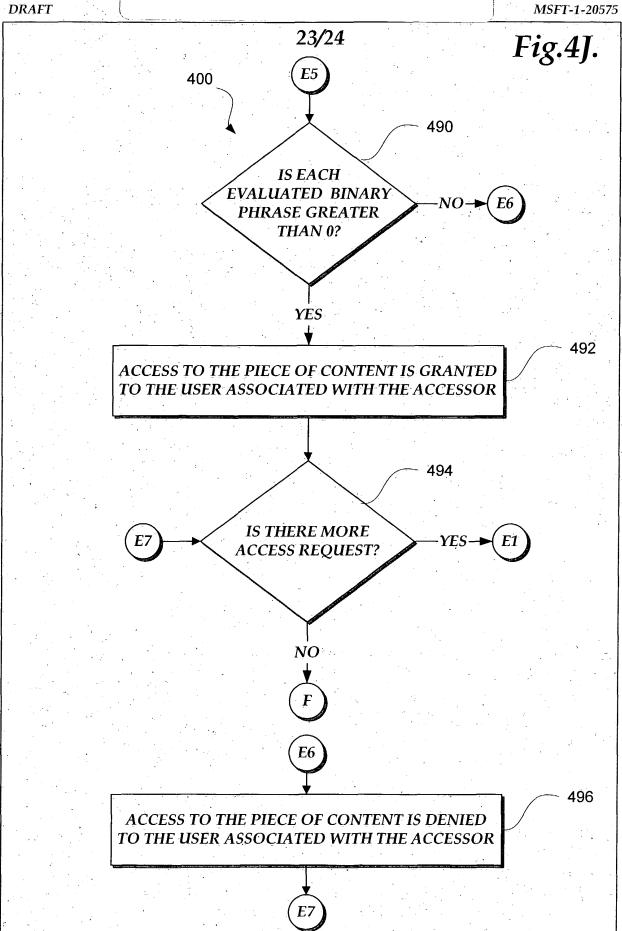
Shawn Oberst

CONTROL Inventor:

Title: DISTRIBUTED EXPRESSION-BASED ACCESS CONTROL

Inventor:

Shawn Oberst Docket No.: MSFT120575



CONTROL Inventor: Shawn Oberst Docket No.: MSFT120575 DRAFT MSFT-1-20575 24/24 Fig.4K. 400 THE PIECE OF CONTENT USES UDDI TO FIND A 498 COMPILER WEB SERVICE TO COMPILE ACCESS SCOPE SENTENCES (SEE PROCESSING STEPS 464-466) THE PIECE OF CONTENT USES UDDI TO FIND 499 AN EVALUATOR WEB SERVICE TO EVALUATE ACCESS (SEE PROCESSING STEPS 474-496)

Title: DISTRIBUTED EXPRESSION-BASED ACCESS